

Rhopalum nasale, a New Species from Australia (Hymenoptera: Crabronidae)

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Abstract.—The new species *Rhopalum nasale* from Southern Australia is mainly characterized by its unique clypeal process, the expanded occipital carina, and the pronotal and propodeal structures.

Of the 278 currently recognized species of *Rhopalum*, 98 occur in Australia (Leclercq, 1997). This number, however, is far from complete. I have recently seen in the Australian National Insect Collection, Canberra, a dozen species that cannot be identified using Leclercq's key and that are apparently undescribed. They are represented mostly by one or a few specimens each. One of them, represented by a series of 10 females, is so unusual that I cannot stand the temptation of describing it.

The following are the abbreviations used in the text:

- ANIC: Australian National Insect Collection, Canberra, A.C.T., Australia.
CAS: California Academy of Sciences, San Francisco, California, USA.

Rhopalum nasale Pulawski, sp. n.

Name derivation.—The Latin adjective *nasalis* (neuter: *nasale*) means "referring to the nose", or "with a big nose"; with reference to the clypeal process of the female.

Diagnosis.—The new species can be easily recognized by the unique, narrow, conspicuous process emerging from the upper part of the clypeus (Fig. 1c, d), and

the conspicuously expanded dorsolaterally occipital carina (Fig. 1a, b). The unusual pronotum and the propodeal side (see description below) are also diagnostic.

Description.—Head as seen from above transverse (Fig. 1a); vertex thick (distance between hindocellus and occipital carina twice as long as ocellular distance), its lateral margins nearly parallel. Midocellus slightly smaller than hindocellus; distance between hindocelli $2.6 \times$ distance between midocellus and hindocellus; ocellular distance $1.4 \times$ hindocellar width. Orbital fovea well defined. Interantennal area flat, without specialized structures; interantennal distance about $1.1 \times$ antennal socket width; distance between antennal socket and orbit about $1.5 \times$ antennal socket width. Clypeus with median process emerging from its dorsal area (Fig. 1c, d); process narrow, aetose, slightly broadening toward apex, emarginate apically; area between process and clypeal ventral margin concave, aetose, delimited dorsally by carina that extends from each side of process. Mandibular apex unidentate. Occipital carina joining hypostomal carina, conspicuously enlarged subdorsally but not enlarged dorsally (Fig. 1a, b). Upper frons and postocellar area finely punctate, punctures less than one diameter apart. Ventral portion of gena (on each side of hypostomal carina) without tubercle, un-

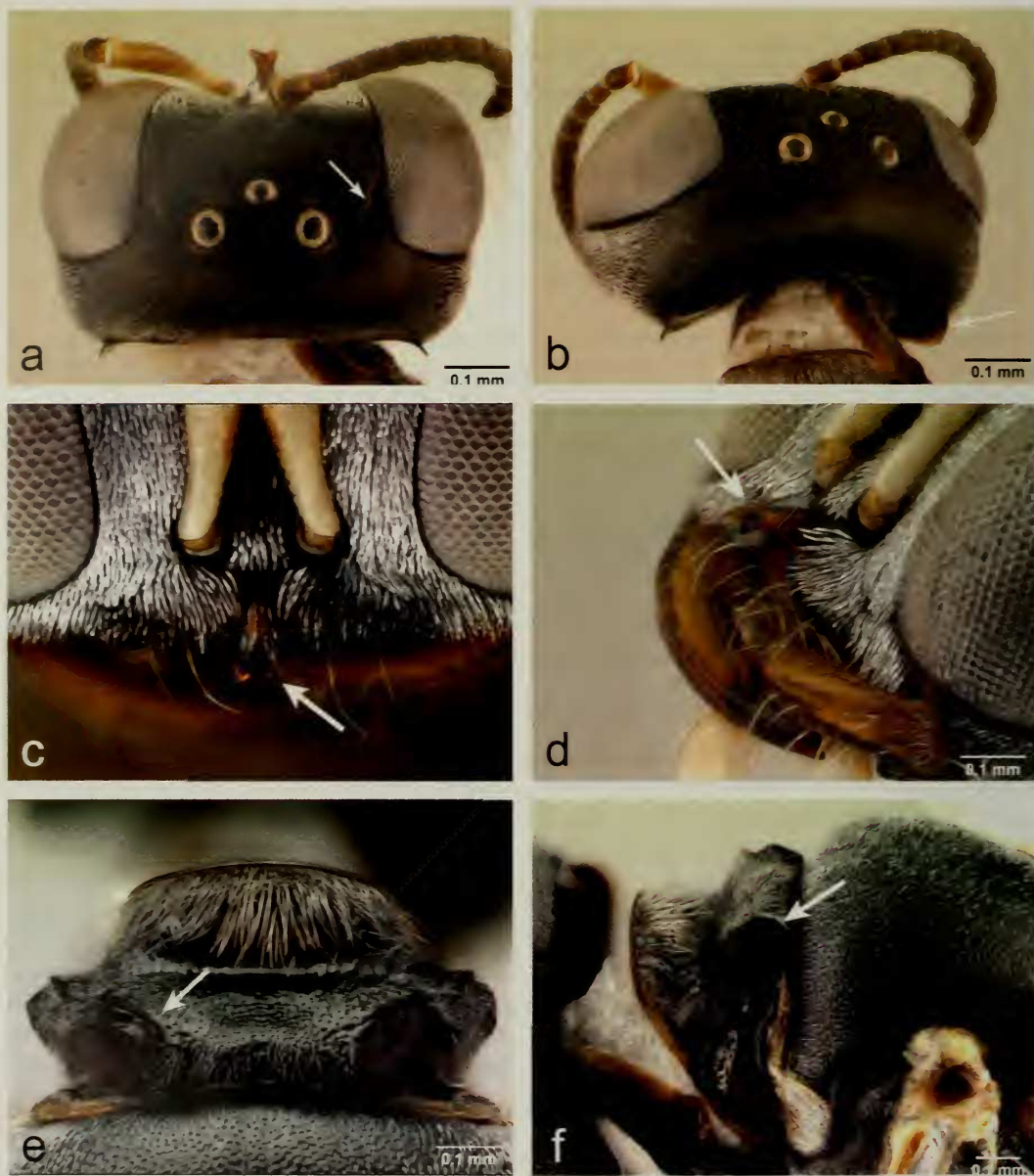


Fig. 1. *Rhopalum nasale* sp. n., ♀: a – head in dorsal view (arrow indicates orbital fovea); b – head in oblique view (arrow indicates occipital carina); c – clypeus in frontal view (arrow indicates projection); d – clypeus in lateral oblique view (arrow indicates projection); e – pronotum dorsally (arrow indicates sublateral carina); f – pronotum laterally (arrow indicates sublateral carina).

sculptured except for a few sparse punctures; posterior part of gena (behind eye) minutely punctate, punctures almost contiguous. Pronotum with pair of sublateral carinae (Fig. 1e) that diverge both anterad and posterad, nearest to each other at top of collar; anterior portion of each carina

convex dorsally, concave subdorsally, and irregularly convex ventrally; pronotal side with deep, narrow sulcus anterad of lobe, with glabrous, unsculptured area dorsally that is delimited by carina anteriorly and dorsally, and by sulcus posteriorly (Fig. 1f). Scutum finely punctate, punctures

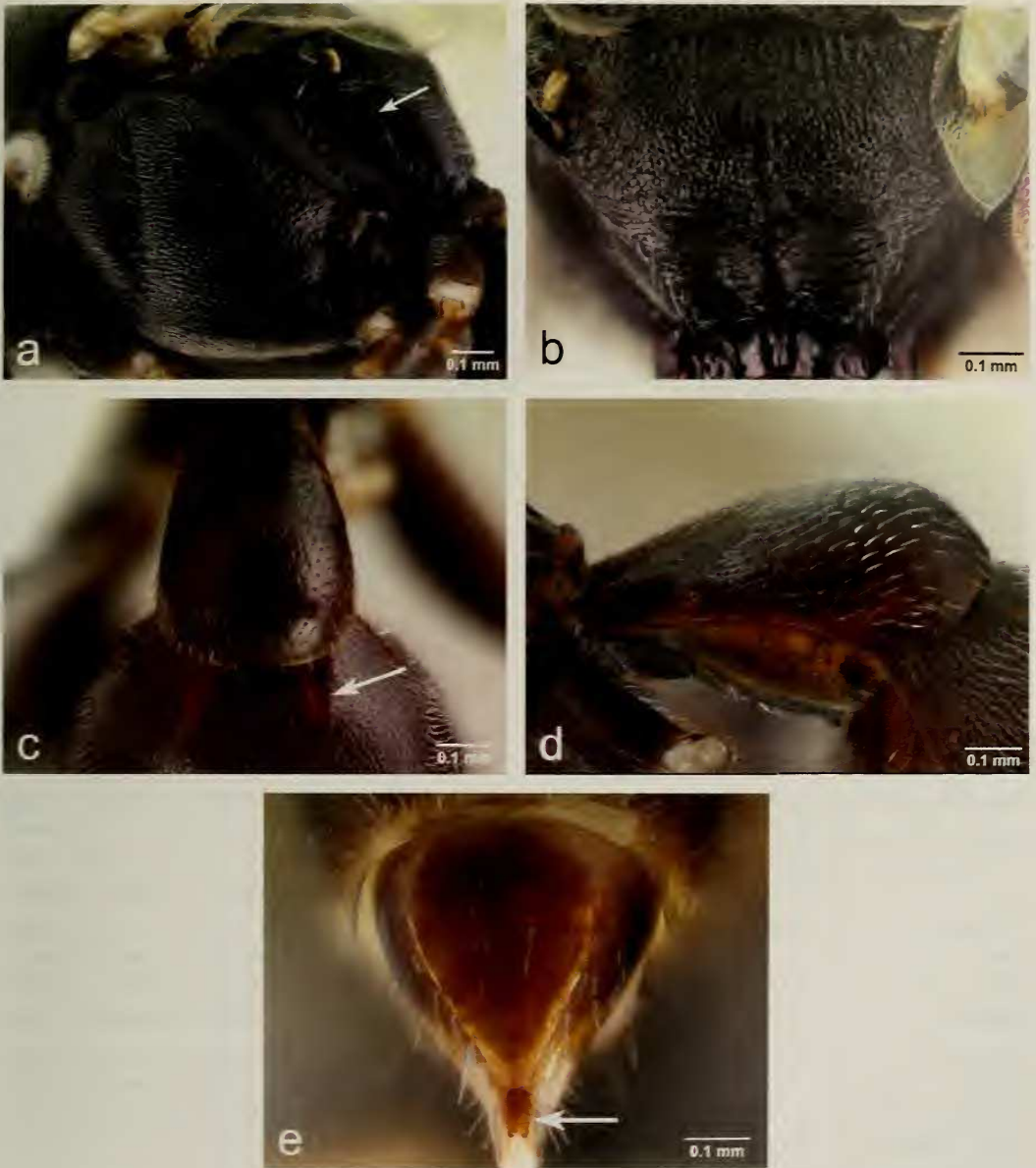


Fig. 2. *Rhopalum nasale* sp. n., ♀: a – thorax and propodeum in lateral view (arrow indicates longitudinal carina on propodeal side); b – propodeal dorsum; c – tergum I and base of tergum II in dorsal vies (arrow indicates reddish brown basal spot on tergum II); d – tergum I laterally; e – pygidial plate in dorsal view (arrow indicates bifid apical process).

averaging about one diameter apart except more than one diameter apart at center; interspaces unsculptured. Mesopleural punctures larger than those on scutum, averaging less than one diameter apart except vertical subdorsal area adjacent to

metapleuron unsculptured (Fig. 2a); episternal sulcus crenulate; prepectus rounded. Propodeal enclosure not delimited, microareolate, dull, longitudinally ridged basally, without median sulcus (Fig. 2b); propodeal side with longitudinal

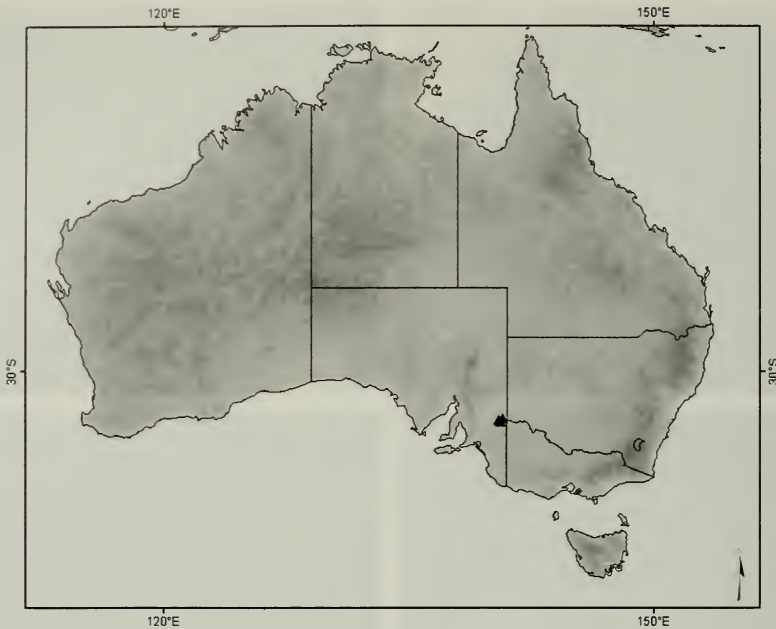


Fig. 3. Collecting localities of *Rhopalum nasale*, sp. n.

carina that joins metapleural flange anteriorly and ends just in front of hindcoxa base (Fig. 2a); area beneath carina unsculptured, shiny, area above carina with traces of longitudinal ridges. Recurrent vein joining submarginal cell at about two thirds of its length. Submarginal cell obliquely truncate. Forebasitarsus with two preapical rake spines that are about as long as basitarsus width. Hindtibia and basitarsi not swollen, hindtibia with well-defined spines. Tergum I relatively short, constricted apically (Fig. 2c), distance between basal tendon and imaginary line connecting spiracles half that of distance between line and apex; posterior half convex in profile (Fig. 2d); tergum length about $1.2 \times$ maximum width, its maximum width $0.4\text{--}0.5 \times$ that of tergum II. Tergum II with pair of dark reddish brown, aetose, elongate spots basally (Fig. 2c). Pygidial plate broad basally, gradually narrowing posterad, apically elongate as narrow, bifid process; with well-defined, sparse punctures basally, and conspicuous setae next to process (Fig. 2e).

Head, thorax, propodeum, and gaster black except the following: scape pale yellow, flagellum brown dorsally, light brown ventrally, mandible yellowish brown, dark apically, pronotal lobe pale yellow, tegula pale yellow (partly translucent), humeral plate dark brown mesally, pale yellow along margin. Femora black, forefemur pale yellow apically, largely yellowish brown in some specimens. Foretibia yellow; midtibia brown or yellowish brown, pale yellow basally and apically; hindtibia brown, pale yellow basally and apically. Tarsi yellow.

Male.—Unknown.

Geographic distribution (Fig. 3).—South-eastern South Australia.

Records.—HOLOTYPE: ♀, **AUSTRALIA: South Australia**: 32 km N Renmark at $33^{\circ}53'S$ $140^{\circ}44'E$, 2–29 Mar 1995, K.R. Pullen (ANIC). PARATYPES (all collected by K.R. Pullen): **AUSTRALIA: South Australia**: 32 km N Renmark at $33^{\circ}53'S$ $140^{\circ}44'E$, 2–29 Mar 1995 (2 ♀, ANIC; 1 ♀, CAS); 31 km NW Renmark at $33^{\circ}59'S$ $140^{\circ}30'E$, 1–30 Mar 1995 (1 ♀, ANIC; 1 ♀,

CAS) and 30 Mar – 2 May 1995 (1 ♀, ANIC; 2 ♀, CAS); 14 km WNW Renmark at 34°07'S 140°37', 28 Feb – 28 Mar 1995, (1 ♀, ANIC).

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generated the illustrations using Auto-Montage software package by Syncroscopy, and Lindsay Irving produced the distribution map.

LITERATURE CITED

Leclercq, J. 1997. Hyménoptères Sphécides d'Australie du genre *Rhopalum* Stephens, 1829. *Notes Fauniques de Gembloux* 32: 3–101.